

Translation

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PATENT COOPERATION TREATY

PCT/DE2003/003614



PCT Rec'd DE 2003/003614

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70) Rec'd PCT/DE 2003/003614

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Applicant's or agent's file reference 2002P18325WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/DE2003/003614	International filing date (day/month/year) 30 October 2003 (30.10.2003)	Priority date (day/month/year) 09 December 2002 (09.12.2002)
International Patent Classification (IPC) or national classification and IPC G06F 17/50, 9/44, 17/60		
Applicant SIEMENS AKTIENGESELLSCHAFT		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 7 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 04 June 2004 (04.06.2004)	Date of completion of this report 26 August 2005 (26.08.2005)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/DE2003/003614

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
 pages _____ 1-10 _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the claims:
 pages _____ 1-12 _____, as originally filed
 pages _____, as amended (together with any statement under Article 19
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the drawings:
 pages _____ 1/3-3/3 _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item. These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/DE 03/03614

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-12	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-12	NO
Industrial applicability (IA)	Claims	1-12	YES
	Claims		NO

2. Citations and explanations

Reference is made to the following documents:

- D1: HILDING ELMQVIST: "A UNIFORM ARCHITECTURE FOR DISTRIBUTED AUTOMATION" ADVANCES IN INSTRUMENTATION AND CONTROL, INSTRUMENT SOCIETY OF AMERICA, RESEARCH TRIANGLE PARK, US, Vol. 46, No. PART 2, 1991, pages 1599-1608, XP000347589 ISSN: 1054-0032
- D2: WO 97/15877 A (LENG HELMUT; ZINK THOMAS (DE); JUNG HERBERT (DE); REITER HERMANN (DE)) 1 May 1997 (1997-05-01)
- D3: US-B-6 369 8411 (WITTE MANFRED ET AL) 9 April 2002 (2002-04-09)
- D4: US 2002/047865 A1 (LINGSCHIED VICTOR ET AL) 25 April 2002 (2002-04-25).

1. Novelty, inventive step

- 1.1 The solution proposed in claim 1 of the present application is not inventive (PCT Article 33(3)). The reasons are as follows:

Document D1, which is considered the closest prior art, discloses (following as closely as possible the wording of claim 1 of the present application; the

references between parentheses relate to document D1).

- a system for generating an automation code from descriptions containing control-relevant information (abstract, page 1605, paragraph 6), having
- components specified in the description, wherein the components have ports and are represented by at least one functional group (page 1600, paragraph 7, "functional aspects", page 1601, paragraphs 1-3, page 1605, paragraph 10 "inputs");
- input/output information to the ports, derived from directed relationships between the components which are contained in the descriptions (page 1601, paragraph 7 "graphically connecting them together", paragraph 10 "sequences", figure 5 "execution order", page 1605, paragraph 4, "structured graphical editor is used for editing of equations and sequences"),
- signals belonging to the components, wherein the signals are intended to be sent via the ports of the components (page 1605, paragraph 10 "inputs" - clearly there are also corresponding "outputs"),
- and a code generator for producing automation code by combining the signals (page 1605, paragraphs 5-10).

The subject matter of claim 1 differs from the above in that "first means for defining meta information for the signals" are mentioned.

The problem to be solved by the present invention is therefore understood to be that of making available additional information on the signals, if necessary.

To a person skilled in the art is it obvious that, if necessary, signals can be provided with meta information. In document D1 (page 1605, paragraph 10), the information deposited in the "data-flow-model", which can be used to sort the instances, can, for example, be referred to as "metainformation" attributed in part to the signals.

Depending on the request, a person skilled in the art would therefore provide the signals with meta information and in doing so arrive at the solution described in claim 1, without thereby exercising inventive skill.

Please note:

Document D2 discloses a CAE system for the object-oriented design of an industrial plant (abstract: "object-oriented engineering of a plant") and generation of applications (page 3, paragraph 1). Technical features leading to the automatic, inevitable rejection of faulty wiring are assigned to wiring contacts (page 4, paragraphs 2-3). In other words, meta information of the signals is defined, and automation code is generated by interconnecting the signals. Consequently, document D2 is likewise prejudicial to an inventive step of claim 1.

- 1.2 Claim 2 is not inventive (PCT Article 33(3)) because the method described above is clearly suitable for manufacturing and process engineering plants (see, for example, document D1, abstract "automation system", "process pictures").

- 1.3 Claims 3 and 4 are not inventive (PCT Article 33(3)) because the use of drawings with control-relevant information is known to a person skilled in the art from the graphical programming of automation processes and it is obvious that input means for these must be provided (see, for example, document D1, abstract "graphical programming").
- 1.4 Claim 5 is not inventive (PCT Article 33(3)) because the use of material flows and other flows for automation coding is known to a person skilled in the art. See, for example, document D1 (page 1601, paragraph 7 "information flow", page 1605, paragraph 10 "data-flow model").
- 1.5 Claim 6 is not inventive (PCT Article 33(3)) because a person skilled in the art knows that distributed applications are well suited to automation (see, for example, document D1, abstract "distributed objects", page 1605, paragraph 5 "distributed program").
- 1.6 Claims 7-12 are not inventive (PCT Article 33(3)), for the reasons already given for claims 1-6.
2. Other observations
- 2.1 Claim 1 is not clear and does not meet the requirements of PCT Article 6 insofar as the subject matter for which protection is sought is not defined clearly. The following vague or functional statements make it impossible for a person skilled in the art to determine which technical features are necessary in order to carry out the functions specified:

- "with input/output information derived from [...] relationships [...] contained in the descriptions"; the extremely convoluted sentence structure makes it difficult to determine which preposition belongs to which participle and which subject, and hence also makes it difficult to determine the scope of protection of the claim.
- "system [...] from [...] descriptions, having [...] first means for defining meta information"; this is vague, as it is not clear whether "having" refers to "system" or "descriptions". In the first case the means could be, for example, a keyboard. As far as the scope of protection is concerned, it is not clear how meta information differs from normal information.

For the purpose of point 1. above, the claims were interpreted in the light of the description.